

Stephen Tang & Anneka Ferguson, ANU Legal Workshop

## Introduction

In a previous study with Professional Legal Education (PLE) students at ANU Legal Workshop, we observed that:<sup>[1]</sup>

- Students began a major course (the Professional Practice Core – PPC) with levels of distress comparable to the general population; and
- On the whole, levels of distress remained low by the end of the course, suggesting that the course did not contribute to psychological distress.

These findings were in contrast to the patterns of elevated psychological distress observed in other studies of law students.<sup>[2]</sup>

We have since repeated the survey on two successive cohorts of PPC students. This provides an opportunity to combine the separate studies by way of a meta-analysis, and to explore the indicators of psychological distress using more nuanced psychometric techniques.

### The Context: The Professional Practice Core (PPC)<sup>[3]</sup>

- 18-week required course, core part of the ANU Legal Workshop PLE program.
- Fully online, using a real-time simulated practice environment.
- Students work in teams of around 4 (together as a virtual firm), mentored by experienced legal practitioner.
- Out-of-role reflective webconferences and learning activities.
- Ongoing assessment, feedback and feed-forward.
- Professionalism, Giving Voice to Values (GVV) and positive orientation to uncertainty as cross-cutting themes.

## Method

Since 2012, PPC students have been invited to complete an online survey at the very beginning and end of the course. The survey has now been run over four cohorts (including the pilot study in Summer 2012), involving a total of 2111 observations:

| Survey Cohort          | Start n | End n | Retention % |
|------------------------|---------|-------|-------------|
| 1. Pilot (Summer 2012) | 53      | 49    | 92.5        |
| 2. Winter 2012         | 338     | 245   | 72.5        |
| 3. Summer 2013         | 496     | 300   | 60.4        |
| 4. Winter 2013         | 355     | 275   | 77.5        |

Amongst other questions, all surveys contained the **DASS-21** (Depression Anxiety Stress Scales, 21-item version), a short but effective measure of psychological distress.<sup>[4]</sup>

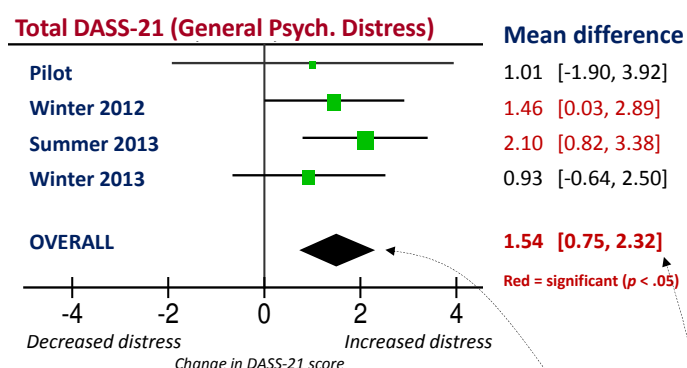
Only aggregate (cohort) level data are reported in this poster. Analyses using individual change scores will be written up later (although previous analyses from cohort 2 mirrored aggregate findings). As such, the change analyses reported here use each cohort as its own control.

## Meta-analysis: DASS-21 Change

**How did DASS-21 scores change over the PPC?** This can be explored by looking at **forest plots** from the meta-analysis, which show the effect and weight of each of the 4 survey cohorts, as well as the overall effect size (amount of change).

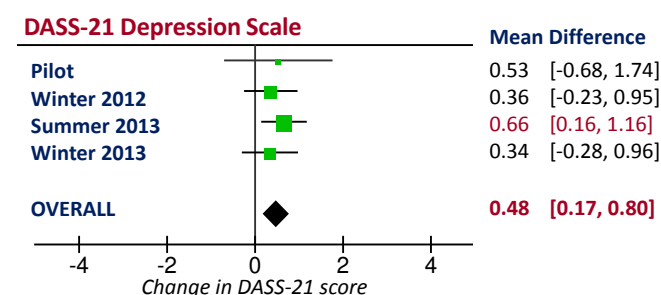
### Interpreting a Forest Plot

- **Green square** = mean difference = average amount of change from start to end of PPC. Positive number means increase in distress.
- **Size of green square** = weight of study (adjusting for number of participants, amount of variance, etc).
- **Horizontal lines from green squares** = 95% confidence interval = we're pretty sure that the true change is somewhere along this line. If this line crosses the vertical zero line, then the change is not statistically significant.
- **Black diamond** = overall weighted mean difference (amount of change) from all studies. Width indicates 95% confidence interval.



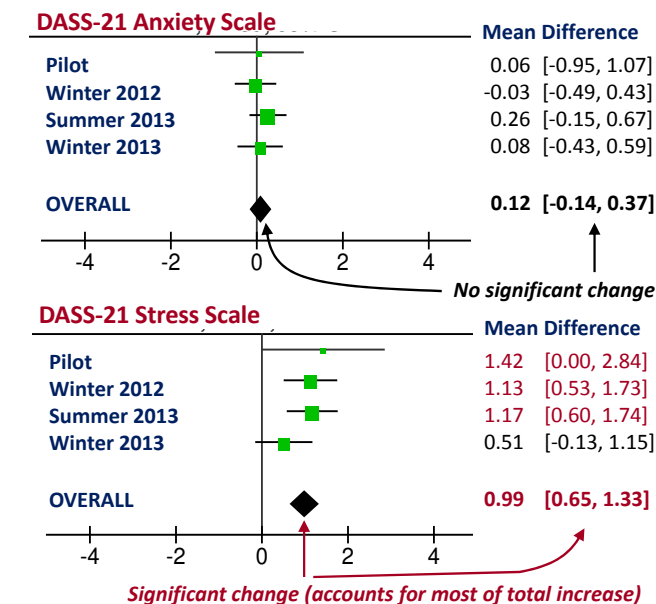
Overall psychological distress **did increase over the PPC** (the black diamond is wholly beyond the zero line), even though 2 of the 4 studies did not show a statistically significant change.<sup>[5]</sup>

However, the **effect size is small**, with a weighted average increase of only **1.54 points** on a scale from 0 to 63. We can then break this down by looking at each of the DASS scales:



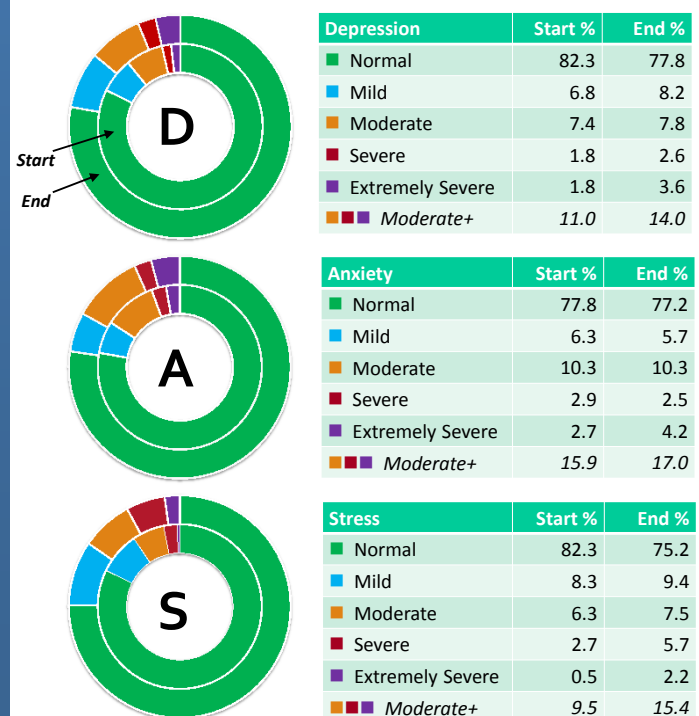
The overall change in the **depression** (above) and **stress** (top of next column) scales is **statistically significant** – scores do rise over the PPC,<sup>[6]</sup> but the effects are also small (0.48 and 0.99 point increases, on average). Such effects are unlikely to be **practically significant**, and are smaller than the changes observed in other studies of law students. There was no significant change in the **anxiety** subscale score (next column).<sup>[7]</sup>

## Meta-analysis (continued)



## DASS-21 Severity Levels

**How severe are levels of psychological distress at the start and end of the PPC, across all surveys?** We can look at the severity categories for the Depression, Anxiety and Stress subscales:

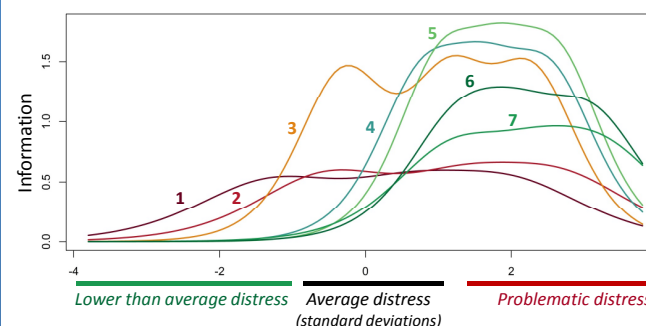


Changes in Depression/Stress severity category were noticeable, but were again smaller than in previous studies.<sup>[8]</sup> Most students stayed well within the 'Normal' range.

## Specific Indicators of Distress

Despite the overall low levels of severity, **what kinds of symptoms and experiences, as measured on the DASS-21, were the best indicators of overall psychological distress?**

An Item Response Theory (IRT) analysis from all end of PPC surveys (n = 871) provides some insights.<sup>[9]</sup> The **Item Information Curves (IIC)** show how 'useful' each item is and within what range of distress. Selected IICs are plotted below:



Some DASS-21 items (eg, **1**: 'I found it hard to wind down' [Stress] and **2**: 'I was aware of dryness of my mouth' [Anxiety]) did not yield very much information (*flat low curves: ie, common and low-level experiences*). Other items did not sufficiently differentiate between normal and high distress (eg, **3**: 'I found myself getting agitated' [Stress] – *the peak is wide*).

By contrast, items containing **negative beliefs about oneself in context** (mainly from the Depression subscale) were most reliably predictive of high overall psychological distress in our students (*the curve peaks only at higher levels of distress*), eg:

- 'I felt that I had nothing to look forward to' (**4 – Depression**) and
  - 'I felt I wasn't worth much as a person' (**5 – Depression**)
- ... which were somewhat better (*had higher peaks*) than:
- 'I felt that life was meaningless' (**6 – Depression**) and
  - 'I felt scared without any good reason' (**7 – Anxiety**)

## Conclusions and Implications

- The data do not support a conclusion that legal education causes *substantial* increases in psychological distress.
- Aggregate-level changes in distress were generally small. Stress symptoms were the largest contributor to distress change, but high overall distress was better predicted by depression-related symptoms/beliefs relating to identity, meaning & purpose.
- These findings must be considered within the unique pedagogical context of the PPC or PLE more widely.

## Further Information

Download a PDF version of this poster (with references) at:

<http://bit.ly/PLEwellness>

Or scan the QR code on the right with your phone or tablet.



# Notes to Poster ‘Psychological Distress in PLE Students: Change, Severity & Indicators’

Stephen Tang and Aneka Ferguson\*

ANU Legal Workshop, Australian National University

1. Stephen Tang and Aneka Ferguson, ‘The Possibility of Wellbeing: Preliminary Results from Surveys of Australian Professional Legal Education Students’ (forthcoming) *QUT Law Review*; Stephen Tang and Aneka Ferguson, ‘Surprisingly Well? A Peek into the Wellbeing/distress Data from a Survey of Australian PLE Students’ (Paper presented at the 2013 National Wellness for Law Forum, Melbourne Law School, 21 February 2013).
2. See, eg, Molly Townes O’Brien, Stephen Tang and Kath Hall, ‘Changing our Thinking: Empirical Research on Law Student Wellbeing, Thinking Styles and the Law Curriculum’ (2011) 21 *Legal Education Review* 149; Wendy Larcombe, Letty Tubaga, Ian Malkin, Pip Nicholson and Orania Tokatlidis, ‘Does an Improved Experience of law School Protect Students Against Depression, Anxiety and Stress? An Empirical Study of Wellbeing and the Law School Experience of LLB and JD Students’ (2013) 35 *Sydney Law Review* 407; Wendy Larcombe, Ian Malkin and Pip Nicholson, ‘Law Students’ Motivations, Expectations and Levels of Psychological Distress: Evidence of Connections’ (2012) 22 *Legal Education Review* 71; Wendy Larcombe and Katherine Fethers, ‘Schooling the Blues? An Investigation of Factors Associated with Psychological Distress Among Law Students’ (2013) 36 *University of New South Wales Law Review* 390; Anthony Lester, Lloyd England and Natalia Antolak-Saper, ‘Health and Wellbeing in the First Year: The Law School Experience’ (2011) 36 *Alternative Law Journal* 47; Norm Kelk et al, *Courting the Blues: Attitudes Towards Depression in Australian Law Students and Legal Practitioners* (Brain & Mind Research Institute, 2009).
3. See Aneka Ferguson, Stephen Tang and Gary Tamsitt, ‘An Integrated Learning Environment for Professional Legal Education’ (Paper presented at the 2014 AALS Annual Meeting, New York, 6 January 2014); Aneka Ferguson and Elizabeth Lee, ‘Desperately Seeking ... Relevant Assessment? A Case Study on the Potential for Using Online Simulated Group Based Learning to Create Sustainable Assessment Practices’ (2012) 22 *Legal Education Review* 121; Aneka Ferguson and Stephen Tang, ‘“Servicing our clients”: A Snapshot of our Student Group at the Beginning of their PLT’ (Paper presented at the 2012 APLEC Conference, Hobart, November 2012); Aneka Ferguson and Stephen Tang, ‘Practice Management that Embraces Uncertainty and Giving Voice to Values’ (Paper presented at the 2013 Association of Legal Teachers Conference, Nottingham, UK, March 2013).
4. Steven H Lovibond and Peter F Lovibond, *Manual for the Depression Anxiety Stress Scales* (Psychology Foundation, 2nd ed, 1995).

---

\* Address for correspondence: [stephen.tang@anu.edu.au](mailto:stephen.tang@anu.edu.au). Thanks to Wendy Larcombe for her helpful feedback on a draft version of this poster.

5. *DASS-21 GPD*: Heterogeneity:  $\chi^2(3) = 1.45, p = .69, I^2 = 0\%$ ; overall effect:  $Z = 3.83, p < .001$ .
6. *DASS-21 Depression*: Heterogeneity:  $\chi^2(3) = 0.87, p = .83, I^2 = 0\%$ ; overall effect:  $Z = 3.05, p = .002$ ;  
*DASS-21 Stress*: Heterogeneity:  $\chi^2(3) = 3.07, p = .38, I^2 = 2\%$ ; overall effect:  $Z = 7.73, p < .001$ .
7. *DASS-21 Anxiety*: Heterogeneity:  $\chi^2(3) = 0.87, p = .083, I^2 = 0\%$ ; overall effect:  $Z = 0.90, p = .37, ns$ .
8. Compare with the ~30% of moderate+ distress observed in previous studies at ANU and MLS: see above n 1. Analysing the data through ordinal logistic regressions yields a similar pattern to the meta-analysis results. These models are expressed as odds ratios (OR), controlling for cohort. Proportional odds assumption not rejected for all three variables.
  - a. *DASS-21 Depression*:  $OR = 1.323, p = .011, CI_{.95} = [1.067, 1.640]$ .
  - b. *DASS-21 Anxiety*:  $OR = 1.051, p = .635, CI_{.95} = [.856, 1.290], ns$ .
  - c. *DASS-21 Stress*:  $OR = 1.593, p < .001, CI_{.95} = [1.290, 1.966]$ .
9. A polytomous graded response model (GRM) IRT analysis is considered appropriate since a principal components analysis (PCA) of the *DASS-21* items yielded one large factor ( $\lambda = 9.469$ , accounting for 45.091% of variance, while the next largest eigenvalue was only 1.576, explaining 7.507% of variance). The *DASS-21*, despite its tripartite conceptual structure, can therefore be treated as a unidimensional measure of overall psychological distress (within certain parameters) for this analysis.